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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,399	08/30/2001	Frankie Fariborz Roohparvar	400.130US01	8233

27073 7590 04/02/2003

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EXAMINER

PHAM, LY D

ART UNIT PAPER NUMBER

2818

DATE MAILED: 04/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/943,399

Applicant(s)

ROOHPARVAR ET AL.

Examiner

Ly D Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 14-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 14-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

FINAL ACTION

DETAILED ACTION

1. Applicants' response has been entered in Office paper No. 11.

Response to Arguments

2. Applicants' arguments filed February 10, 2003 have been fully considered but they are not persuasive.

As per applicants' remarks, the DRAM disclosed in Chen et al. cannot be equated with a flash memory since they have different bus interconnections, functions, and uses. Applicants point out that the present invention provides a Rambus-compatible non-volatile memory device that uses the same bus as Rambus device while transferring data on both edges of a clock signal.

All of these characteristics can be found in the disclosure of Chen et al., under 'BACKGROUND OF THE INVENTION'. More specifically, col. 1, lines 14 – 21 indicate the applicability of the non-volatile memory and col. 1, line 66 – col. 2, line 9 disclose the use of RDRAM.

Although Deneroff et al. did not clearly show the disclosure applied over RDRAM/non-volatile memory, the features shown have been found obvious, to one skilled in the art, in combination of the primary reference shown by Chen et al., in which the claimed applications and uses have all been shown.

As a result, the pending claims remain rejected as follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 – 4, 14 – 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US Pat 6,324,602 B1).

Regarding **claims 1, 3 and 4**, Chen et al. disclose a flash memory comprising:

an array of non-volatile memory cells (background of the invention mention non-volatile RAM, col. 1, lines 16 – 21, and an array of memory cells, col. 1, lines 36 – 40);

data connections (inherent in all electrical applications, fig. 1 is exemplary showing different data connections among different modules);

an interconnect configuration compatible with a rambus dynamic random access memory (RDRAM) (col. 1, line 66 – col. 2, line 9);

output circuitry to provide output data on the data connections (col. 5, lines 17 – 21, output enabled by clock, col. 5, lines 49 – 53, I/O circuitry) on rising and falling edges of a clock signal (col. 1, lines 55 – 57, data transferred on both edges of the clock in DDR RAM, also, col. 6, lines 36 – 41); and

input circuitry to receive input data on the data connections on rising and falling edges of the clock signal (col. 9, lines 20 – 23, I/O interface transferring information, data, on both edges of the clock. Here, I/O includes both input and output scenarios).

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Regarding **claims 2 and 18**, Chen also discloses the flash memory of claim 1, further comprising sense amplifier coupled to the array (col. 5, lines 10 – 17).

Regarding **claim 14**, Chen also discloses the flash memory of claim 1, wherein the array of non-volatile memory cells are arranged in a plurality of addressable banks (col. 1, lines 48 – 54).

Regarding **claim 15**, the examiner takes an Office Notice that it is considered common and well-known in the art, at the time the invention was made, that addressable bank contains addressable sectors of memory cells.

5. Claims 16, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US Pat 6,324,602 B1) in view of Deneroff et al. (US Pat 6,215,686 B1).

Regarding **claims 16 and 17**, although Chen et al. did not disclose the flash memory of claims 1 and 4, wherein the output circuitry is adapted to provide the output data starting at a selected location and continuing for a programmed number of locations in a programmed sequence, nevertheless, the claimed feature has been shown by Deneroff et al. (col. 10, lines 64 – 67). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to integrate the inventive features disclosed by Deneroff to the disclosure of Chen so that different parts of a memory word may be separately addressed with a unique address (col. 11, lines 19 – 21).

Regarding **claim 19**, Deneroff further discloses the flash memory of claim 18, wherein the memory is adapted to provide burst-oriented read accesses (col. 11, lines 19 – 21).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicants are strongly suggested to review **ALL** of the cited references for features relevant to the claimed limitations.

8. When responding to the office action, Applicant(s) are advised to provide the examiner with the page and line numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

9. Any inquiry concerning this communication on earlier communications from the examiner should be directed to Ly Pham, whose telephone number is 703-305-4862. The

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examiner can normally be reached on Monday – Friday from 8:30am to 5:00pm, alternate Friday off. The examiner's supervisor, David Nelms, can be reached at 703-308-4910. The fax number for the organization where this application or proceeding is assigned is 703-308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Ly Pham



March 25, 2003



David Nelms
Supervisory Patent Examiner
Technology Center 2800